FIT2099 – ASSIGNMENT 3

RECOMMENDATION OF CHANGE TO GAME ENGINE

GROUP: ZHUORAN AND AN

1. Item and hidden abilities
   a. Problem(s)

      At the moment, functions of item can only be executed by players in that turn through hotkey. An item will not accept a hidden attribute/ action that can only be activated under special circumstances. This will make the game more fun as the player need to play it several times to discover that special function of item

   b. Proposal

      An item needs a constructor to store hidden attributes. New attribute can be added to this list. It will be called under special conditions or circumstances. This constructor is called every turn but not print out as the options in the menuDescription

   c. Advantages
      - Extend the gameplay of the game
      - Public and hidden attributes of an item is now separate. It is easier to maintain and the object-oriented is more manageable
      - Easier to debug as we can know from which the issue comes

   d. Disadvantages
      - The item constructor becomes more complex in overall
      - Encapsulation can be challenging as well
      - As those are hidden attributes, they can contain potential issues that the programmer doesn't expect
2. Game play by turn
   a. Problem(s)

      The game is executed turn by turn. Therefore, we can only see the results of the actions between actors rather than interesting interactions between them.

   b. Proposal

      A mini playTurn constructor can be created to support simple interactions like talking and spitting where player can be reply back by choosing an option on menu. This can be expanded to create a mini game inside a large game. For example, player can play rock-paper-scissor to get akey

   c. Advantages
      - Extend the gameplay of the game
      - Game will have more exciting interactions
      - Interactions is main focus of the game rather than the result of an executed actions
      - This proposal can be achieved by existing methods

d. Disadvantages

- The item constructor becomes more complex in overall
- The inner construction of the game need a major changes to adapt to this proposal. Possibly, a new way to run this game might be considered

3. Looking for an item in Player inventory

a. Problem(s)

To look for an item and get allowable actions from player' s inventory is might be complex snippet of code. In assignment 2, most of the time, I must inherit from Item to create an item like RocketPlan, RocketPlan just for comparing whether it is in the inventory. This might be not a big issue but if I could, I would like to improve to make it cleaner method. This might be helpful for other functions to be implemented as well

b. Proposal

A query of finding an item in an inventory might be a good solution. This query get an input which is a string name of an item, and return the index of that item in the inventory list

c. Advantages

- Reduce the redundant code. No need to extend the class so that I can use "instanceof" to check whether the item is in inventory
- A cleaner way to manage items. Create item and add action for item.

d. Disadvantages

- If we are doing searching in large scale (e.g player has hundred of items), the method of searching need to be considered as well. Otherwise, the game will be very slow.